

REMARKS

Entry of the foregoing, reexamination and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.111 and in light of the remarks which follow, are respectfully requested.

By the above amendments, claims 1-4 have been amended to recite that the dye changes the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state. Support for these amendments can be found in the instant specification at least at page 7, lines 20-22.

In the Official Action, the Patent Office has indicated that a certified copy of the foreign priority document has not been received. In response, filed herewith is a certified copy of Japanese Patent Application No. 2000-257799, filed August 28, 2000, to which the present application claims the benefit of priority. The Patent Office is respectfully requested to acknowledge the receipt of the priority document.

Claims 1 and 5-11 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,184,268 (*Nichols et al*) in view of either U.S. Patent No. 6,136,079 (*Evans et al*) or U.S. Patent No. 6,093,510 (*Helber et al*). Claims 2, 3 and 12 stand rejected under 35 U.S.C. §103(a) as being obvious over *Nichols et al* in view of U.S. Patent No. 5,302,437 (*Idei et al*), and either *Evans et al* or *Helber et al*. Withdrawal of these rejections is respectfully requested for at least the following reasons.

According to one aspect of the present invention as defined by claim 1, an aqueous ink composition for inkjet recording is provided. The aqueous ink composition comprises: a dye J-aggregate having an average particle size of 2 to 200 nm, wherein the dye changes the λ_{\max} in 20

to 150 nm between a molecular dispersion state and the J-aggregated state; and water-dispersible polymer particles having an average particle size of 10 to 400 nm, wherein the amount of the water-dispersible polymer particles is from one to ten times as much as that of the J-aggregate. Additional aspects of the present invention as defined by claims 2 and 3 are directed to image forming methods.

Nichols et al relates to processes for the preparation of colored aqueous, or water containing ink compositions particularly suitable for use in ink jet printing processes (col. 1, lines 44-49).

Nichols et al does not disclose or suggest each feature of aspects of the present invention as defined by claims 1-3. For example, *Nichols et al* does not disclose or suggest an ink composition for inkjet recording comprising a dye J-aggregate. This deficiency of *Nichols et al* is acknowledged by the Patent Office at page 3 of the Official Action. Moreover, *Nichols et al* has no disclosure or suggestion that the dye changes the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state, as recited in claims 1-3.

The Patent Office has relied on *Evans et al* for disclosing the claimed dye J-aggregate. However, like *Nichols et al*, *Evans et al* does not disclose or suggest a dye which changes the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state. In fact, as acknowledged by the Patent Office at page 4 of the Official Action, *Evans et al* does not even disclose that the dye thereof is a J-aggregate, let alone that the dye changes the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state.¹

¹It is noted that the Patent Office bears the burden of establishing that it is certain that the *Evans et al* dye inherently possesses the claimed feature of changing the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state. See Ex Parte Cyba, 155 (continued...)

Furthermore, the Patent Office has relied on *Helber et al* for disclosing the claimed dye J-aggregate. However, like *Nichols et al*, *Helber et al* fails to disclose or suggest a dye which changes the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state. The Patent Office has not met its burden of establishing with certainty that the *Helber et al* dye inherently possesses the claimed feature of changing the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state.

Moreover, it is noted that the Patent Office has asserted that one of ordinary skill in the art would have been motivated to incorporate the *Helber et al* dye in the *Nichols et al* ink jet ink composition because the dye possesses "sharp cutting spectral features" (Official Action at page 4). However, *Helber et al* discloses that such "sharp cutting spectral features" are features which make the dye particularly useful in photographic finger-filter applications (col. 6, lines 8-10). *Helber et al* further discusses such finger-filter applications and dyes used in connection therewith at column 2, lines 20-31. Given that the advantage of the dye cited by the Patent Office relates to finger-filter applications, one of ordinary skill in the art would not have been motivated to modify the *Nichols et al* ink jet ink composition by incorporating therein the dye disclosed by *Helber et al*.

Idei et al fails to cure the above-described deficiency of *Nichols et al*. In this regard, *Idei et al* relates to a recording sheet for recording with inks (col. 1, lines 4 and 5). The Patent Office has relied on *Idei et al* for disclosing carrying out ink jet recording on coated paper (Official Action at pages 6 and 7). However, like *Nichols et al*, *Idei et al* does not disclose or suggest a

¹(...continued)
USPQ 756 (POBA 1966).

dye which changes the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state, as recited in claims 1-3.

For at least the above reasons, no *prima facie* case of obviousness exists. Accordingly, withdrawal of the §103(a) rejections is respectfully requested.

Claims 1, 5 and 9-11 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 6,313,196 (*Helling et al*) in view of either *Evans et al* or *Helber et al*. Claims 2, 3 and 12 stand rejected under 35 U.S.C. §103(a) as being obvious over *Helling et al* in view of *Idei et al* and either *Evans et al* or *Helber et al*. Withdrawal of these rejections is respectfully requested for at least the following reasons.

Helling et al relates to an ink for the production of ink jet images, which are sprayed in a fine imagewise modulated jet onto a suitable recording material (col. 1, lines 3-5).

Helling et al does not disclose or suggest each feature of aspects of the present invention as defined by claims 1-3. For example, *Helling et al* does not disclose or suggest an ink composition for inkjet recording comprising a dye J-aggregate. This deficiency of *Helling et al* is acknowledged by the Patent Office at page 7 of the Official Action. Moreover, *Helling et al* has no disclosure or suggestion that the dye changes the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state.

Evans et al, *Helber et al* and *Idei et al* fail to cure the above-described deficiency of *Helling et al*. For example, *Evans et al*, *Helber et al* and *Idei et al* do not disclose or suggest a dye which changes the λ_{\max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state. This deficiency of the above secondary applied documents is discussed above in greater detail with respect to the §103(a) rejection based on *Nichols et al*. As well, one of

ordinary skill in the art would not have been motivated to incorporate the *Helber et al* dye in the composition disclosed by *Helling et al* in light of the Patent Office's reliance on *Helber et al*'s disclosure of advantages associated with the use of the dye in finger-filter applications, as discussed above.

Accordingly, for at least the above reasons, withdrawal of the §103(a) rejections is respectfully requested.

Claim 4 stands rejected under 35 U.S.C. §103(a) as being obvious over *Nichols et al* or *Helling et al*, either of which in view of U.S. Patent No. 4,832,984 (*Hasegawa et al*), and either *Evans et al* or *Helber et al*. Withdrawal of this rejection is respectfully requested for at least the following reasons.

The deficiencies of *Nichols et al*, *Helling et al*, *Evans et al*, *Helber et al* and *Idei et al* are discussed above. Simply put, each of the above applied documents does not disclose or suggest a dye which changes the λ_{max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state, as recited in claim 4.

The Patent Office has relied on *Hasegawa et al* for disclosing the use of a substrate coated with a lower image receiving layer comprising pigment such as silica and upper layer comprising water-dispersible polymer such as acrylic resin wherein the ink passes through the upper layer to reach the image receiving layer (Official Action at page 13). However, like the above applied documents, *Hasegawa et al* does not disclose or suggest a dye which changes the λ_{max} in 20 to 150 nm between a molecular dispersion state and the J-aggregated state.

Accordingly, for at least the above reasons, withdrawal of this §103(a) rejection is respectfully requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: _____

 ✓
Roger H. Lee
Registration No. 46,317

P.O. Box 1404
Alexandria, VA 22313-1404
(703) 836-6620

Date: July 1, 2003